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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/965,162	09/27/2001	Steve E. Hoffman	9436-9	3930

23973 7590 04/20/2005

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EXAMINER

ALIE, GHASSEM

ART UNIT	PAPER NUMBER
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3724

DATE MAILED: 04/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/965,162	<b>Applicant(s)</b> HOFFMAN, STEVE E.	
	<b>Examiner</b> Ghassem Alie	<b>Art Unit</b> 3724	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 January 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 13-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 13-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 January 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### *Drawings*

1. The drawings are objected to because Fig. 7 has been submitted on two separate sheets which are labeled "Replacement Sheet" and "Amended Figure."

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### *Claim Rejections - 35 USC 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

- b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 2, 6, 13, 14, and 18 are rejected under 35 U.S.C. 102(b) as being unpatentable over Vankov et al. (5,802,932), hereinafter Vankov. The device of Vankov discloses the invention as claimed, including, inter alia, a straight blade portion with a plurality of teeth and two opposed sides which define a blade portion width, having a surface finish which is less than approximately 10 Ra (col. 5, lines 56-61; col. 6, lines 14-18, col. 10, lines 33-45), having a surface finish which is approximately 6 Ra or less (col. 6, lines 14-18), the sides of the teeth having a surface finish less than 10 Ra and less than 6 Ra (col. 5, line 65 through col. 6, line 3), a cutting edge and teeth having a cutting tips width that are substantially the same as the blade portion width. Vankov also teaches that the high precision surface finishing process inherently reduces residual tensile stress of the saw blade, since the surface finishing process inherently reduces the residual tensile stress of the blade portion by removing part of the cutting edge or sharpening the cutting edge. In addition, Vankov's surface finishing process that produces surface roughness less than 10 Ra for the saw blade inherently reduces the residual tensile stress of the saw blade. Because, the surface finishing process of the instant application, which produces the same surface roughness for saw blade as Vankov's surface finishing process, reduces the residual tensile stress of the saw blade. With respect to the surface finishing process for obtaining a saw blade with surface roughness of less than or equal to 10 Ra or 6 Ra as set forth in claims 1, 13, and 19, "If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the product of prior art was made by a different process." In re Thorpe, 777 F.2d 695,698, 277 USPQ 964, 966 (Fed. Cir. 1985). See MPEP § 2113. In view of this, similar to the process of the instant application, Vankov's process is

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also a polishing process as the surface finishing process of the instant invention and it is which is used to produce a high precision surface finish with less than 10 Ra or 6 Ra for two opposed sides of a blade.

4. Claims 20, 21, 25, 26, 27, and 31 are rejected under 35 U.S.C. 102(b) as being unpatentable over Vankov. The device of Vankov discloses the invention as claimed, including, inter alia, a straight blade portion with a plurality of teeth and two opposed sides which define a blade portion width, having a surface finish which is less than approximately 10 Ra (col. 5, lines 56-61; col. 6, lines 14-18, col. 10, lines 33-45), having a surface finish which is approximately 6 Ra or less (col. 6, lines 14-18), the sides of the teeth having a surface finish less than 10 Ra and less than 6 Ra (col. 5, line 65 through col. 6, line 3), a cutting edge and teeth having a cutting tips width that are substantially the same as the blade portion width. With respect to the surface finishing process for obtaining a surface finish of less than or equal to 10 Ra or 6 Ra as set forth in claims 20, and 26, "If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the product of prior product was made by a different process." In re Thorpe, 777 F.2d 695,698, 277 USPQ 964, 966 (Fed. Cir. 1985). See MPEP § 2113. In view of this, similar to the process of the instant application, Vankov's process also is a polishing process as the surface finishing process of the instant invention and it is used to produce a high precision surface finish with less than 10 Ra or 6 Ra for two opposed sides of a blade.

5. Claims 1, 2, 6, 13, 14, and 18 are rejected under 35 U.S.C. 102(b) as being unpatentable over Williams et al. (5,477,616) hereinafter Williams. Regarding claims 1, 2, 6,

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13, 14, 18, and 19, Williams teaches an improved saw blade including a blade portion having two opposed sides which define a blade width and a cutting edge 5 formed on the blade portion. Williams also teaches that the cutting edge has a cutting tip width. The blank of the knife 2 is defined as a cutting portion. Williams also teaches that the blade has a high precision surface finish which is less than or equal to approximately 10 Ra. The bank or the blade portion of the knife has a high precision surface in a range of 0.1 Ra to 2.0 Ra, which is less than 10 Ra or 6 Ra. See Figs. 1-2 and col. 2, lines 50-67 and col. 4, lines 50-67 in Williams. Williams also teaches that the high precision surface finishing process inherently reduces residual tensile stress of the saw blade, since it produces a harder cutting edge for the blade and improves the cutting performance of the blade. In addition, Williams' surface finishing process that produces surface roughness less than 10 Ra for the saw blade inherently reduces the residual tensile stress of the saw blade. Because, the surface finishing process of the instant application, which produces the same surface roughness for saw blade as Williams' surface finishing process, reduces the residual tensile stress of the saw blade. With respect to the surface finishing process for obtaining a saw blade with surface roughness of less than or equal to 10 Ra or 6 Ra as set forth in claims 1, 13, and 19, "If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the product of prior art was made by a different process." In re Thorpe, 777 F.2d 695,698, 277 USPQ 964, 966 (Fed. Cir. 1985). See MPEP § 2113. In view of this, similar to the process of the instant application, Williams' process also includes a polishing or grinding process as the surface finishing process of the instant

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invention and is used to produce a high precision surface finish with less than 10 Ra or 6 Ra for two opposed sides of a blade.

6. Claims 20, 21, 25, 26, 27, and 31 are rejected under 35 U.S.C. 102(b) as being unpatentable over Williams et al. (5,477,616) hereinafter Williams. Regarding claims 20, 21, 25, 26, 27, and 31, Williams teaches an improved saw blade including a blade portion having two opposed sides which define a blade width and a cutting edge 5 formed on the blade portion. Williams also teaches that the cutting edge has a cutting tip width. The blank of the knife 2 is defined as a cutting portion. Williams also teaches that the blade has a high precision surface finish which is less than or equal to approximately 10 Ra. The bank or the blade portion of the knife has a high precision surface in a range of 0.1 Ra to 2.0 Ra, which is less than 10 Ra or 6 Ra. See Figs. 1-2 and col. 2, lines 50-67 and col. 4, lines 50-67 in Williams. With respect to the surface finishing process for obtaining a saw blade with surface roughness of less than or equal to 10 Ra or 6 Ra as set forth in claims 20 and 26, "If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the product of prior art was made by a different process." In re Thorpe, 777 F.2d 695,698, 277 USPQ 964, 966 (Fed. Cir. 1985). See MPEP § 2113. In view of this, similar to the process of the instant application, Williams' process also includes a polishing or grinding process as the surface finishing process of the instant invention and is used to produce a high precision surface finish with less than 10 Ra or 6 Ra for two opposed sides of a blade.

To the degree that it could be argued that Vankov or Williams does not teach that the surface finishing process inherently reduces residual stress of the blade portion, the rejection under 35 U.S.C. below is applied.

***Claim Rejections - 35 USC 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1, 2, 4-6, 13, 14, 1-21 22-27, and 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vankov or Williams and in further view of Hashimoto (5,873,770). Regarding claims 1, 2, 6, 13, 14, 18, 20, 21, 25, 26, 27, and 31, Vankov or Williams teaches the invention as claimed, including, inter alia, a straight blade portion with a plurality of teeth and two opposed sides which define a blade portion width, having a surface finish which is less than approximately 10 Ra, having a surface finish which is approximately 6 Ra or less, the sides of the teeth having a surface finish less than 10 Ra and less than 6 Ra, a cutting edge and teeth having a cutting tips width that are substantially the same as the blade portion width. See paragraphs 1-5 above. Vankov or Williams does not teach a centrifugal finishing apparatus that produces a surface roughness of less than 10 Ra or less than 6 for the blade portion and reduces the residual tensile stress of the blade portion. However, the use of centrifugal apparatus for producing a high surface finish for the blade or the like and reducing the residual tensile stress of the blade is well known in the art such as taught by Hashimoto. Hashimoto teaches a vibratory finishing process which includes



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tumbling, rotating, spinning, or centrifugal processes, where one or more workpieces are placed in a container and abrasive medial or abrading elements displace portions of the workpiece during the vibratory finishing process. See Col. 1, lines 15-24 in Hashimoto. Hashimoto also teaches that the workpiece could be a scissor or knife blade and other hardened steel parts. Hashimoto also teaches that the finishing process beings the exterior surface of the product between an arithmetic average roughness Ra of 10 to 20. See col. 5, lines 5-45 and col. 6, lines 10-67 in Hashimoto. Hashimoto also teaches the surface of the workpiece can be performed until a desired surface roughness is produced. It should be noted that Hashimoto's surface finishing process is the same as the surface finishing process of the instant application. Therefore, similar to the surface finishing process of the instant invention Hashimoto's surface finishing process must reduce the residual tensile stress of the blade portion. It should also be noted that the centrifugal process inherently includes inner and outer vessel such as the centrifugal process taught in Hoffman (5,355,638). In addition, as stated above, "If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the product of prior art was made by a different process." *In re Thorpe*, 777 F.2d 695,698, 277 USPQ 964, 966 (Fed. Cir. 1985). See MPEP § 2113. It would have been obvious to a person of ordinary skill in the art to provide Vankov's saw blade or Williams' saw blade with a surface finishing process as taught by Hashimoto in order to obtain a desired surface finish for the blade portion.

Regarding claims 4, 5, 14, 16, 17, 23, 24, 29, and 30, Vankov or Williams as modified above teaches everything noted above including that the high precision surface finish is in a

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range of approximately 2 Ra and 6 Ra or 2 Ra and 6 Ra. Williams teaches that Ra is approximately 2 which is within both ranges mentioned above. In addition, Hashimoto teaches that the surface finishing process can produced a desired surface roughness.

Therefore, it would have been obvious to a person of ordinary skill in the art to performed the surface finishing process until a desired surface roughness, i.e., within the ranges mentioned above, is produced.

9. Claims 3, 15, 22, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vankov or Williams in view of Hashimoto, as applied to claims 1, 13, 19, 20, and 26, and in further view of Gakhbar et al. (5,555,788), hereinafter Gakhar. Regarding claims 3, 15, 22, and 28, Vankov or Williams as modified above teaches everything noted above, but Vankov or Williams as modified above does not expressly teach that the saw blade is a circular saw blade and includes an anti-kickback portion located circumferentially behind each cutting tip and wherein at least a portion of the anti-kickback portion has a high precision low friction surface finish. However, Vankov or Williams as modified by Hashimoto teaches that the surface finishing process can be performed on a blade having cutting teeth or any other hardened still parts. Gakhar teaches an anti-kickback portion coated with a low friction surface located behind each cutting tip (Fig. 43, item 14, col. 4, line 67, claim 3). It would have been obvious to one of ordinary skill in the art to perform the surface finishing process as taught by Vankov or Williams and modified by Hashimoto, on a similar blade having cutting tips such as a circular saw as taught by Gakhbar, since the surface finishing process as taught by Vankov or Williams and modified by Hashimoto could be performed on the blades having cutting tips.

*Response to Argument*

10. Applicant argument's filed on 01/04/05 have been considered by they are not persuasive. Applicant's argument that the process-by-product formulation is proper under MPEP § 2113 that the process produces a product that is structurally different and can not be defined in purely structure terms is not persuasive. Vankov may not be exactly the same as the polishing process in the instant application. However, Vankov's electropolishing process produces a substantially similar product as set forth in claims 1, 13, and 19. Vankov's electropolishing process produces a high precision surface for the blade portion having less than 10 Ra as set forth in claims 1, 13, and 19. Vankov's electropolishing process also is capable of reducing the residual tensile stress of the blade portion. In addition, according to MPEP § 2113, "If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 777 F.2d 695,698, 277 USPQ 964, 966 (Fed. Cir. 1985). In view of this, similar to the process of the instant application, Vankov's process is also a polishing process which is used to produce a high precision surface finish for two opposed sides of a blade. Furthermore, according to MPEP § 2113, rejection of product-by-process claims under 35 U.S.C. 102 is proper because "...when the prior art discloses a product which reasonably appears to be either identical with or only slightly different from a product claimed in a product-by-process claim, a rejection based alternatively on either section 102 or section 103 of the statute is eminently fair and acceptable. As a practical matter, the Patent Office is not equipped to manufacture products by the myriad of processes put before it and then obtain prior art products and make physical comparisons therewith.' In

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re Brown, 459 F.2d 531, 535, 173 USPQ 685, 688 (CCPA 1972).” Therefore, the rejection is proper.

Applicant’s argument that Vankov’s does not teaches that residual tensile stress of the blade portion is reduced by the surface finishing process is not persuasive, As stated above, Vankov’s surface finishing process that produces surface roughness less than 10 Ra for the saw blade inherently reduces the residual tensile stress of the saw blade. Because, the surface finishing process of the instant application, which produces the same surface roughness for saw blade as Vankov’s surface finishing process, reduces the residual tensile stress of the saw blade.

In view of applicant’s arguments and further evidence provided with applicant amendment indicating that the surface finishing of the saw blade in the invention reduces residual stress, rejection of claims under 35 U.S.C. 112, first paragraph, is withdrawn.

### ***Conclusion***

11. The prior art made of record and not relied upon is considered pertinent to applicant’s disclosure.

Sollami (5,458,210), Limuma (6,708,594), Ball (5,741,751), Friel, Sr. (6,863,600), Watts (4,117,748), and Brenner et al. (6,511,559) teach a surface finishing process for a blade.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ghassem Alie whose telephone number is (571) 272-4501.

The examiner can normally be reached on Mon-Fri 8:30 am - 5:00 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Allan Shoap can be reached on (571) 272-4514. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, SEE <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (too-free).

GA/ga

April 15, 2005



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